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Love Me True: Deception, Affection, and Evolutionary Strategies of Human Mating

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Abstract

Love Me True: Deception, Affection, and Evolutionary Strategies of Human Mating

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Giving and receiving affection is a key part of the human experience, particularly in close relationships. Affectionate messages may take on many forms, both those that are genuine and those that are deceptive in nature. A deceptive affectionate message is defined in this study as the intentional communication of a positively-valenced message, in which the intensity of the feeling is greater than that which is truly felt by the sender at that time (Horan & Booth-Butterfield, 2013). This study employed theoretical perspectives from evolutionary psychology in an attempt to explore what might motivate romantic partners to communicate a deceptive affectionate message (DAM). This study claims that DAMs may be seen as adaptive and strategically chosen mate-retention behaviors, which might be selected in the case that they can satisfy the needs of both the sender and receiver of the message. Broader questions about conceptualizing the nature of deception in close relationships are also raised and pursued.

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Introduction

Giving and receiving affection in close relationships has been identified as a basic human need (Rotter, Chance, & Phares, 1972; Schutz, 1958, 1966) connected to a host of important consequences, such as relational formation and maintenance (Floyd, 2006, 2014), commitment, satisfaction (Horan & Booth-Butterfield, 2010), happiness, self-esteem, and overall mental health (Floyd, 2002; Floyd, 2014). Affectionate messages can take on many forms. A *deceptive* affectionate message involves the intentional communication of a positively-valenced message, such as closeness, intimacy, or liking, in which the intensity of the feeling communicated is greater than that which is genuinely felt by the sender (Horan & Booth-Butterfield, 2013). In spite of the deceitful nature of the message, the goal of the behavior is not always to harm the relationship or injure the receiver (though there are certainly instances in which this is the case). Rather, in the case of deceptive affectionate messages, the goal may be the protection, preservation, or nurturance of the relationship (Horan & Booth-Butterfield, 2013). In exploring this phenomenon, questions surrounding the circumstances that may produce a behavior that has been popularly conceived of as selfish and malicious (DePaulo, Kashy, Kirkendol, Wyer, & Epstein, 1996) naturally arise. What could be at the root of this phenomenon? What previously unconsidered relational factors might be associated with actively, intentionally, and positively misconstruing the state of our relationship to our partners?

The present study seeks to apply principles of evolutionary psychology to unpack possible answers to this question. In this study, I will argue that deceptive affectionate

messages are adaptive, strategically chosen behaviors employed as mate-retention tactics, specifically designed to pursue the dual goals of enhancing the mate value of the sender, while simultaneously fulfilling the needs of the receiver. Implicit in this argument is the claim that not all deception is bad for relationships, but rather that certain deceptive acts may serve as an important communicative option for preserving them.

Scholars in the field of personal relationships have widely recognized that behaviors which could be considered on their face as dysfunctional and detrimental to relationships (e.g., conflict, topic avoidance, secret-keeping) sometimes serve to protect the harmony and vitality of the relationship. The intersection of deception, which has traditionally been cast as damaging to relationships, and affection, which until recently has been seen as almost exclusively beneficial provides an excellent space for nuancing assumptions of "positive" and "negative" behaviors in close relationships (for a fuller discussion of perils associated with communicating affection see, Floyd, 2006; Floyd & Burgoon, 1999; Floyd & Morman, 2000; Floyd & Voloudakis, 1999). The current study attempts to situate deceptive affectionate messages as part of a category of behaviors that may be important for sustaining relationships, though they are often morally disavowed.

In the first section of this manuscript, I will provide brief overviews of the literature surrounding the goals and motivations for deception in close relationships, evolutionary psychology, affection exchange theory, and their convergence in the phenomenon of deceptive affectionate messages. In conjunction with this review, I will offer four hypotheses and two research questions designed to explore some additional phenomena that may be associated with deceptive affectionate messages.

DECEPTION IN CLOSE RELATIONSHIPS

In spite of the social mandate against lying, deception appears to be a part of many of our everyday interactions. DePaulo, Kashy, Kirkendol, Wyer, and Epstein (1996) report that college students lie, on average, in one out of three social interactions. A community sample reported a slightly lower rate (telling lies in one out of five interactions) though the incidence suggests that this still amounts to telling at least one lie each day. Lies are told at various rates in a wide variety of relationship types, from acquaintances and casual friends, to those we are closest to, including our family members and romantic partners (DePaulo & Kashy, 1998). Research has shown that men tell significantly more lies than women (Dreber & Johanesson, 2008).

While deception seems to be a fairly commonplace event, many scholars have noted society's strong call for truthfulness and openness in our relationships (Bok, 1983; Caughlin, 2003; Goldsmith & Domann-Scholz, 2013; Spitzberg & Cupach, 2007). This perspective suggests that honesty is always the best policy, and anything that runs contrary to this decree is inimical to "healthy" relationship development. Lies, lying, and interpersonal deception are among the many behaviors that have traditionally been cast as those that should be avoided if a "healthy" relationship is to be achieved.

A more nuanced view of the potential motivations and outcomes of deception in interpersonal relationships has largely replaced this orientation in the literature (Guthrie & Kunkel, 2013; Horan & Booth-Butterfield, 2013; Kelly, 1998; Regan & Hill, 1992). Researchers recognize that deception can be used for a variety of purposes that are functional and beneficial to the maintenance and preservation of close relationships. For

the purpose of this study, deception is defined as the intentional presentation of a message that includes information that is known to be false to the sender with the intention of engendering a false perception in the receiver (Buller & Burgoon, 1998; Horan & Booth-Butterfield, 2013).

Camden, Motley, and Wilson (1984) examined the possible social motivations of telling "white lies" (lies perceived to have little or no negative consequences for the receiver), and reported that the vast majority of lies told in close relationships were motivated by the desire to accrue benefits for the liar. One view of the "selfish" motivation for lying assumes that liars secure resources or advantages for themselves as a result of their actions, with the implication that these gains are to the detriment or exclusion of the other. The authors offer an alternative interpretation. They suggest that much human communication is designed to achieve the goals of the sender (which is often accruing resources or benefits, as mentioned above) and so could also be considered "selfish," though not always harmful. The realization of interactional goals, even through deceptive means, does not necessarily occur in conjunction with a cost to the receiver. Thus, simply because a deceptive act could be considered "selfish" does not inherently mean that it is "bad" or that the effects of the message will be "bad" for the relationship. Lies may be told for the benefit of both parties in a relationship. Indeed, further investigation of the data in Camden and colleagues revealed that only 1/3 of the lies recorded in the study could be classified as negatively selfish (those which conferred gains on the liar and denied them to the target).

Dainton and Gross (2008) also recognized the positive goals that can motivate negative behaviors (similar to deception) in relationships. Though they found that some behaviors (infidelity or spying on a partner, for example) negatively influenced relational satisfaction, the found that other negative useful for maintaining relationships. In their analysis of the effects of negative maintenance behaviors, avoidance of certain topics was not significantly associated with relational satisfaction, supporting the notion that not all "negative" behaviors (like avoidance) are intrinsically harmful.

As further noted in Dainton and Gross (2008) deception may have an effect on relational satisfaction similar to that of topic avoidance, in that it can help partners to avoid conflict and also promote relational harmony. Lying may be enacted in an attempt to protect a relationship from unnecessary harm in the case that the sender perceives "the other interactant to be incapable of productive conflict or has judged the potential benefits [of telling the truth] to be outweighed by the additional risk" (Camden et al., 1984, p. 319). Here, the notion that all deceptive acts and negative behaviors in relationships are to be avoided is shown to be overly simplistic and worthy of closer examination so as to avoid generating broad and false conclusions. This suggestion is well illustrated by the phenomenon of deceptive affectionate messages.

DECEPTION AND AFFECTION: STRANGE BEDFELLOWS

By investigating the intersection of deception and affection in a single message, Horan and Booth-Butterfield (2013) offered support for the role of deception as a behavior that could be enacted for the benefit and preservation of relationships in certain cases. Drawing on the idea that individuals "routinely communicate inauthentic

affectionate messages to their romantic partners" (p. 195), the authors set out to uncover the motivation and contents of what they termed "deceptive affectionate messages" (DAMs).

Deceptive affectionate messages are considered to be, "the overt expressions of affection that are not consistent with sources' internal feelings" (Horan & Booth-Butterfield, 2011, p. 79). The incidence of deceptive affectionate messages is similar to that of other types of lies told in routine social interactions, occurring over three times per week on average in romantic relationships. Preliminary research has found that men communicate messages that are considered deceptive at significantly higher rates than their female counterparts while females communicate affectionate messages more frequently than males. The frequency of communicating a message that is simultaneously deceptive and affectionate, though, does not vary by sex. Contrary to findings on the rate of deception in close platonic relationships, the frequency of DAMs in romantic relationships is not correlated with the closeness of the relationship (seriously dating, casually dating, etc.), the length of the relationship, or how long one has known their partner (Horan & Booth-Butterfield, 2013). DAMs are also marked by their underlying motives, which often include the desire to manage or avoid conflict that is seen as potentially threatening to the satisfaction or stability of the relationship (Horan & Booth-Butterfield, 2013). When this is the case, DAMs may not be seen by those either experiencing or observing the relationship as a transgression, but could be seen as something protective and supportive of the relationship instead.

In investigating senders' emotional consequences after communicating a DAM, Horan and Booth-Butterfield (2011) found a negative association between males' feelings of guilt and shame and recalling an episode in which a deceptive affectionate message was sent. These findings deviated from the expected pattern of an increase in those emotions normally associated with recalling relational transgressions (Reik, Luna Root, & Schnabelrauch, 2014). One explanation of these findings may be that men justify their lies to themselves. By understanding the act of lying as important, feelings of cognitive dissonance surrounding the deceptive act may be lessened (Horan & Booth-Butterfield, 2011). An alternative interpretation may be that since men express deception more frequently than women (Horan & Booth-Butterfield, 2013), they are desensitized to the emotional after-effects of the act in a way that women are not, and thus do not experience increases in guilt and shame (Horan & Booth-Butterfield, 2011). A final alternative to consider is that that feelings of guilt and shame are not elicited during recall of a deceptive affectionate message due to the sender's perception that the act is not harmful to the relationship. Rather, the sender may feel that the deceptive act is promoting the relationship's well-being. In as much as this is the case, DAMs may be a form of deception that, under certain circumstances, have functional rather than harmful aims.

Deceptive Affectionate Messages

Deceptive affectionate messages vary in terms of emotions associated with sending the message, the mode of expression, and the motivation behind their expression. The most current research on DAMs suggests that the underlying emotions that are associated with DAMs fit into three broad categories: self-oriented feelings, partner-

related feelings, and context-specific feelings (Horan & Booth-Butterfield, 2013). Self-oriented feelings are affective states that are generally negative such as anger, jealousy, aggravation, or worry. These feelings are classified as self-oriented because they are not necessarily evoked as a result of the actions of the partner, but rather emanate from the self. Partner-related feelings are (typically) fleeting negative emotions that are directed at and aroused by a romantic partner's attributes or activities, such as changes in appearance or habits. Finally, context-specific feelings are negative emotional states that are not attributable to the source or their partner, but rather to the situation. Examples of context-specific feelings include exhaustion, stress, and illness (Horan & Booth-Butterfield, 2013).

DAMs can be communicated both verbally and non-verbally. Verbal DAMs are classified as either "confirming responses of affection" or "avoidant responses" (Horan & Booth-Butterfield, 2013). A DAM that is a confirming response of affection is the expression of a positive feeling towards one's partner that is not currently being felt at the intensity that it is represented. An example of this might be telling a partner that you are glad to see him or her, when in fact you would rather be doing something else. Participants reported telling their partner that they loved him or her as a fairly routine event. An avoidant response involves communicating affection in an attempt to prevent communication about a topic that was perceived as difficult or threatening, or to avoid unwanted interaction (Horan & Booth-Butterfield, 2013) such as a fight or lack of present reciprocal desire for physical intimacy. Non-verbal DAMs incorporate dimensions of proxemics, haptics, and kinesics to show affection for a partner when it is not felt.

Smiling, kissing, holding one's partner, or placing oneself physically near to the partner typify these types of messages (Horan & Booth-Butterfield, 2013).

The motivations behind DAMs are currently conceptualized to include face-saving (for the self or the other), conflict management/avoidance, or emotion management (Horan & Booth-Butterfield, 2013). A self face-saving DAM is motivated by the desire to conceal vulnerable or embarrassing information about the self, such as the desire to avoid displaying negative feelings towards a partner in front of important others. Face-saving motivations oriented towards the other are generally aimed at improving the mood of the partner or not hurting to the partner's feelings. The conflict management/avoidance motivation for communicating a DAM involves the desire to avoid a conflict before it starts, stop a conflict that has already started, or to de-escalate the intensity of a conflict in progress. Finally, the emotion management motivation behind DAMs involves the communication of expected affection that, if not communicated, would provoke negative reactions from a partner. An example of this might be keeping the routine of kissing the partner goodbye, even when one is not truly feeling the desire to do so (Horan & Booth-Butterfield, 2013).

The extant literature on DAMs has largely considered them in the context of committed romantic relationships. However, this boundary condition may not fully represent the phenomenon, as DAMs may well occur in casual relationships as well as in committed ones. Research has suggested that in committed relationships, deception about the nature of commitment may occur more often and is more upsetting than in short-term relationships (Haselton, Buss, Oubaid, & Angleitner, 2005). Clearly, the nature of the

relationship exerts some influence on the behaviors that partners choose to enact. Consider the case of a male suitor attempting to convince a female to engage in sexual intercourse outside of a committed relationship. In this case, the male is pursuing a short-term mating opportunity or relationship, one that offers him the potential benefits of reproduction without the costs of investing physical or emotional resources in a long-term mate (Schmitt, Shackelford, & Buss, 2001). The male has the option of telling the female he loves her, when he truly does not, in an attempt to convince her to have sex. This type of DAM primarily benefits the self, as gains are realized primarily by the sender of the deceptive message rather than the recipient.

Now consider a different case, in which a male suitor tells his committed female partner that he loves her after a fight, when he is truly still feeling anger. A long-term mating situation is at hand in this example. Long-term mating strategies offer the benefits of continued opportunities for reproduction, but involve some costs to opportunities for sexual variety (multiple sexual partners) and greater investment to maintain that relationship (Schmitt et al., 2001). In this example, the DAM is enacted to protect the stability of the relationship and prevent further conflict. This type of DAM aims to provide benefits primarily to the other and the relationship (rather than the self), without harming the other in the process.

The short-term vs. long-term mating orientation of the deceiver seems to distinguish these two cases. In the former, the needs of the self are placed first. In the latter, the needs of the relationship are foregrounded. This may occur as a result of an individual's level of dedication to and investment in the endurance of their partnership

(as dictated by their mating orientation), and may be associated with the valence of the DAM that they express. Research has suggested that the level of commitment in a relationship is strongly associated with mate retention tactics (Tran & Simpson, 2009) and that higher levels of commitment in a relationship are associated with mate retention tactics that are qualitatively similar to DAMs such as resource display, and expressions of love (Miguel & Buss, 2011). To further probe this possible relationship, I advance my first research question:

RQ_1: Is the frequency of DAMs that benefit the self associated with levels of commitment and/or investment in a romantic relationship?

RQ_2: Is the frequency of DAMs that benefit the other/the relationship associated with levels of commitment and/or investment in a romantic relationship?

With the goal of contributing to the extant body of literature on DAMs, the aim of this study is to explore whether, in addition to commitment and investment, other conditions exist within relationships that may contribute to enacting a DAM. Exploring evolutionary psychology's influence on strategies of human mating may help us further probe this question.

DAMs and Affection Exchange Theory

Of the somewhat limited corpus of research that has been done on DAMs, almost all has been rooted in Floyd's (2006) affection exchange theory (AET). AET is a sub-theoretical construct, derived from the principles of evolutionary psychology. Neo-Darwinian theories such as AET concern themselves with the process of natural selection, which suggests that human behavior has evolved in response to a set of

obstacles in such a manner that those characteristics that confer an advantage in responding to the challenges of survival and/or procreation to an organism (humans, in this case) will be passed onto succeeding generations more frequently than neutral or negative characteristics (Gangestad & Simpson, 2000). Humans have developed a specific set of strategies to attract and retain mates who possess these advantageous traits and to pass on these traits to their offspring through a process of sexual reproduction (Buss & Schmitt, 1993), which will be discussed in further detail below. AET conceptualizes expressing and receiving affection as an evolutionarily advantageous behavior that enhances the likelihood of a communicator's survival and successful reproduction, which are core goals of all humans (Buss & Shackelford, 1997).

Affection Exchange Theory is comprised of five postulates. The first postulate states that our need for affection is an innate part of our human nature. Humans have the ability and need to love and be loved, partially engendered by our societies, but also by physical structures in the brain (Floyd, 2006). Thus, affection is a resource that is sought and desired within our personal relationships.

The second postulate makes the centrally important distinction that "affectionate feelings and affectionate expressions are distinct experiences that often, but need not, covary" (p. 163). This second postulate is particularly relevant to the study of DAMs in that these types of messages involve only the expression, but not the experience, of affection. Citing Ekman and Friesen's (1975) conceptualization of "display rules," the theory recognizes that the experience and expression of affection may diverge in five ways. Communicators can *inhibit* their emotions, wherein they do not express what they

are feeling. Communicators may *simulate* an emotion that they are not feeling. Communicators may also express their emotions at *intensified* or *deintensified* levels as compared to the genuinely felt emotion. Finally, emotions may be *masked* by other emotions. DAMs involve either *intensifying* or *simulating* a feeling of affection, whereas *inhibition, deintensifying,* or *masking* are seen as "withholding affection" and are a conceptually distinct phenomena from DAMs (Gillen & Horan, 2013).

Affection exchange theory acknowledges that affection may be simulated or intensified for strategic purposes, such as in the case of DAMs. Floyd, Erbert, Davis, and Haynes (2005) reported that 86% of their sample reported simulating affection for a strategic gain, and half of those reporting having done so had strategically simulated affection within the previous month. This finding does not, however, discriminate between affection simulated for the gain of both the sender and the receiver of the message (a potentially other/relationship oriented situation) and simulated affection that is enacted to afford some benefit to the sender to the detriment of the receiver (a self oriented situation).

The third postulate of AET states that affectionate communication is adaptive and advantageous in the human pursuit of viability and fertility. Affectionate communication aids in the creation of human pair bonds, which confer the benefits of protection and resource-sharing on both parties in the pair. Within a pair bond, the burden of child-rearing is spread across the physical resources of the two parties and is thus less strenuous and also beneficial to the child's viability. As the goal of human reproduction

is to see one's genetic line carried on by one's offspring, the physical and emotional benefits of receiving affection for the child also fulfill the needs of the parent.

Affectionate communication also signals one's fitness as a sexual partner, in that it suggests the ability to fulfill the expectations of the role of partner and eventual parent. Thus, expressing affection, even when not genuinely felt may serve to make a partner seem more attractive as a mate, and also to sustain a pairing with another mate. The application of neo-Darwinian perspectives on the psychology of human mating has illuminated the characteristics beyond affection that make certain individuals more or less attractive as mates as well.

Evolutionary psychology, the larger theoretical lens from which AET is derived, is based in the idea that males and females encounter different challenges to reproduction, and the most attractive mates are those that are able to provide solutions to those challenges (Buss, 1994). While certain characteristics, such as intelligence, humor, and kindness (Lippa, 2007), make a mate attractive regardless of their sex, there are also sex differences in the determinants of attractiveness. For women, the physical and material resources involved in gestating and raising offspring are considerably large (and larger than that of the male), and thus mates who can offer her the greatest quantity of resources (money, protection, goods) become the most attractive (Symons, 1987). It is important to the female that these resources not be split among other competing females, and thus the communication of affection from a mate becomes a particularly attractive quality. Affectionate messages may signal the male's intention to remain in the current monogamous relationship and to provision the female with the resources she and her

offspring will require for survival and continuance of the genetic line. Affectionate messages also demonstrate the ability to care for another person, as the female will expect the male to do with their eventual offspring (Floyd, 2006). Displaying this affectionate ability signals that the mate will be a "good parent," a trait which females value highly when seeking a mate (Gangestad & Simpson, 2000).

Evolutionary psychology also hones in on the notion of parental investment (Trivers, 1972) as a key determinant of sexual behavior and attractiveness. Parental investment refers to the effort or costs involved in successfully creating and raising a child. When individuals devote their time, attention, or resources to a woman's offspring (i.e., expending parenting effort), they are constraining their ability to use those same resources to attract another potential mate with whom they could reproduce (i.e., mating effort) (Gangestad & Simpson, 2000). For men, the process of reproduction (mating effort) involves relatively lower costs, as they do not bear the burden of gestating offspring (parenting effort), nor are they limited by age in their ability to reproduce, and thus resources are not the primary determinant of attractiveness that they seek their mates. Instead, males look for a female who can fulfill their desire for reproduction by seeking out those who outwardly appear to be the most fertile. Markers of fertility (youth, clear skin, lustrous hair, large breasts) are the salient criterion for men when determining attractiveness (Buss, 2000; Brumbaugh, Baren, & Agishtein, 2014), and the ability to express affection has very little bearing on this dimension. Based on this logic, the third postulate of AET recognizes that "the relationship between affectionate communication and reproductive opportunity is stronger for women's mate selections than for men's"

(Floyd, 2006, p. 169), meaning that women find the ability to express affection to be more important when determining the attractiveness of a mate than do men.

Empirical research has provided support for the multiple parts of the third postulate. Floyd and Morman (2000, 2005) found support for the suggestion that we hold a naïve theory of affection, in which we understand affection as a finite resource that is valuable and provisioned to us by close others. Floyd (2002) found that highly affectionate individuals are more likely to be in a romantic relationship (possibly due to their being perceived as more attractive as a result of their affectionate nature), and within those relationships, highly affectionate individuals report higher relational satisfaction than their less affectionate counterparts. Later research on affection by Horan and Booth-Butterfield (2010) bolstered by discovering that receiving affection predicts satisfaction in a relationship and that affectionate partners are perceived more positively. By contrast, the inability to communicate affection has been linked to a lower number of personal relationships (Hesse & Floyd, 2011) as well as a host of negative psychological, social, and relational outcomes (Floyd, 2002). Affection, genuine or otherwise, is thus clearly advantageous in the formation and preservation of satisfying close relationships, which are essential to survival and reproduction.

The fourth postulate states that there is a range of tolerance for affection that varies by individual, and the fifth postulate states that falling either above or below that range can result in negative physical, emotional, and relational consequences. Research has also supported the fifth postulate, in findings that cite the lack of affection as a key driver for many couples seeking marital therapy (Horan & Booth-Butterfield, 2010).

Failure to meet a mate's needs for affection, then, represents a threat to relational stability. These final two postulates are especially important to consider in conjunction with DAMs, as communicators may be using DAMs to ensure that their relationship stays within the optimal range of affection that their partner desires, even when that level of affection may not be genuinely felt by the sender.

Affection Exchange Theory and Mate Retention

Theories of evolutionary psychology (outside of AET) suggest that when we perceive potential threats to the viability of our relationships (such as the threat posed by expressing negative feelings in a relationship, or failing to meet our partner's optimal level of affection), we engage in behaviors designed to keep our mate from exiting the relationship, known as mate retention behaviors. Finding a suitably attractive mate is the first hurdle that humans wishing to reproduce must overcome. Keeping that mate poses an additional problem. Even after a mate has been secured, the threats of relational termination, sexual infidelity, and emotional infidelity loom large (Buss & Shackelford, 1997). Relational termination would involve a total loss of access to the opportunity for reproduction or resources needed for child-rearing associated with that mate. Sexual infidelity may prompt fears of "genetic cuckoldry" (wherein a male devotes resources to offspring that he believes to be his own, but are in fact fathered by another male mate)(Buss, 2002, p. 24). Emotional infidelity may signal that a mate intends to devote valuable emotional or physical resources to another relationship, which places the primary relationship at a disadvantage (Buss & Shakelford, 1997). Both of these outcomes are undesirable from an evolutionary perspective as they involve the loss of

reproductive opportunities and no further gains can be realized from the resources already invested in the relationship with that mate, and thus we seek to avoid them by retaining our mates once we have attracted them. We are particularly wont to engage in mate retention behaviors towards our mates if we perceive them to be highly attractive, if we perceive the presence of attractive alternatives, or if we perceive a high risk for infidelity (Buss, 2000; Gagnstead, Thornhill, & Garver, 2002; Neal & LeMay, 2014).

If sexual strategies define the overarching goals we have for successful reproduction, then tactics are the specific behaviors that we use to achieve those goals (Gangestad & Simpson, 2000). Mate retention tactics fall into 19 general categories, which have a fairly wide range. Examples of mate retention tactics include concealing one's mate, monopolizing the mate's time, jealousy induction, emotional manipulation, appearance enhancement, derogation of the mate or the rival, violence against rivals, and more (Buss, 1988).

In developing the typology of mate retention tactics, Buss (1998) found that, across sexes, the tactic of expressing love or care towards one's partner was the most frequent and effective mate retention technique. Later research, however, has recognized the role of tactics that have traditionally been understood as negative. Jealousy induction, for example, is one such example of a negative mate retention technique. In this case, one partner deliberately incites another to feel jealous, with the purpose of reminding the now-jealous partner that the other partner is valuable as well. Though the detrimental effects of jealousy have been well documented in the literature (Buss, 2000), research has started to uncover some potential benefits of jealousy in mate retention. Sheets,

Fredendall, and Claypool (1997), for example, found a significant positive correlation between jealousy evocation and relational stability. While it is wise to treat any singular finding with a certain degree of caution, when considered with other research on potential benefits of jealousy and jealousy induction (Buss, 1995; Cayanus & Booth-Butterfield, 2004; Wilson & Daly, 1992) one could reasonably suggest that behaviors that have traditionally been understood as detrimental to relationships, such as jealousy induction or deception, could function to ensure the continuation of established relationships under certain circumstances.

DAMs as Mate Retention Behaviors

Goodboy, Horan, and Booth-Butterfield (2012) have suggested that DAMs may be conceived of as maintenance behaviors in romantic relationships. Consistent with the discussion of negative maintenance behaviors and negative mate retention tactics presented above, DAMs enacted in the context of close relationships may be aimed at distancing or harming intimate relationships, but they also may be aimed towards the end of relational endurance. Indeed, Horan and Booth-Butterfield (2013) noted that respondents in their study were often motivated to employ a DAM by the desire to avoid expressing a negative feeling that they felt could threaten their relationship. The purpose of the DAM, then, can be to nurture the perception of closeness and intimacy (albeit through false means) in response to fears that the relationship may fall apart.

Echoing these findings, Horan (2012) found that increased partner affection (be it genuine or deceptive) is associated with decreased perceptions of severity of relational transgressions, and Neal and LeMay (2014) found that increased mate retention tactics

predicted increased partner satisfaction on the day following the enactment of the behavior. Research has demonstrated that transgressors experience an increase in negative emotion following an instance in which they perceive that they have harmed their relationships (Reik, Luna Root, & Schnabelrauch, 2014). If individuals sense that the relationship has been troubled by such an event, they may choose to enact a DAM as a strategic retention tactic motivated by a desire to manage a potentially threatening conflict or episode in a relationship. Attempting to increase a partner's satisfaction with the relationship through DAMs may be an attempt to blunt the effects of perceived threats.

DAMs may also be a way to avoid the relational pitfalls associated with inadequate levels of affection (Horan & Booth-Butterfield, 2012). Even if individuals are not feeling affectionate towards their partner, they may aim to satisfy that partner's needs for affection (suggested in the fourth postulate of AET) by simulating messages that communicate it. DAMs may be employed when people perceive the potentially negative consequences (or costs) of communicating their own true feelings to be greater than the risk posed to the relationship by communicating a deceptive message.

SUCCESSFUL MATE RETENTION: THE ISSUE OF RISK

The communication of a deceptive message, even one that is affectionate, is an inherently risky endeavor, wherein the threat of detection looms in every instance. Discovering deception in romantic relationships is associated with intense negative emotions (McCornack & Levine, 1990). In the case of DAMs, discovery of the false nature of an affectionate message could bring about the very turmoil in a relationship that

it was initially communicated to avoid. Thus, communicators are forced to make an evaluation of the risk of communicating their true feelings versus communicating a DAM. Risk sensitive foraging theory (McNamara & Houston, 1992), which is based on the food gathering habits of animals that are presented with reliable or unreliable patches from which to gather from, suggests that organisms are more likely to engage in a risky behavior when the potential outcome of that behavior leads to the satisfaction of a physiological need. In the case of DAMs, the physiological need is the need for reproduction associated with romantic relationships, and the risky behavior is the DAM.

Error Management Theory (EMT) (Buss, 2002; Haselton & Buss, 2000) may help to explain the process that communicators engage in when evaluating the costs and benefits of sending a DAM. EMT, which is also associated with evolutionary perspectives, suggests that we live in an uncertain world, in which we are often forced to infer or guess at the mental states of others. In making such inferences, two types of errors may occur: perceiving a phenomenon that does not truly exist, or failing to perceive a phenomenon that does. The cost-benefit ratio of these two types of errors varies from situation to situation. The costs of making the wrong mistake are potentially enormous; people risk declines in relational satisfaction or even relational termination if their calculations are incorrect. In cases where making the more costly error recurs multiple times over an extended period and produces negative outcomes, a cognitive bias towards making the other and less damaging choice may evolve (Buss, 2002). Interestingly, Buss (1988) found a significant correlation between the frequency and the effectiveness of mate retention behaviors, since the more effective behaviors are adaptive

and advantageous. This association could be interpreted to suggest that DAMs are acts employed out of a learned desire to avoid making the more costly error. DAMs may help to bolster the strength of a relationship, even if it is not truly threatened. Additionally, the use of a DAM comes at a fairly low cost and potentially large benefit.

When considering enacting a DAM, communicators are sometimes forced to guess at their partner's level of commitment and satisfaction in the present relationship. Following this possibly imperfect inference, individuals must decide whether or not they need to engage in a mate retention tactic that could potentially backfire. If they fail to perceive that their mate is dissatisfied with the relationship or if they fail to perceive that expressing their true feelings would threaten the relationship, they may not engage in a DAM, and the partner may choose to terminate the relationship as a result of his or her dissatisfaction. However, individuals perceive that their partner is dissatisfied (when the partner truly is not) or that expressing a particular feeling would evoke negative reactions (when in fact no such reaction would occur) they may engage in a DAM, and increase the likelihood of successfully retaining that mate. Accordingly, the benefits of engaging in a DAM, even if it is not needed, may outweigh the costs of failing to engage in that behavior.

The cost-benefit ratio of communicating a DAM may be tipped further in favor of engaging the behavior when it is not needed by the finding that relational partners are notoriously unsuccessful at detecting lies from close others (Burgoon, Buller, Ebesu, & Rockwell, 1994). Thus, the risk of the target discovering the deception (and the ensuing,

likely negative relational consequences) is relatively low, making the communication of a DAM an even more attractive retention tactic.

THE ISSUE OF MATE VALUE DISCREPANCY

There may, however, be more at hand than a simple calculation of risk in understanding the phenomenon of DAMs. Returning to principles of evolutionary psychology offers some guidance in pointing towards another possible characteristic associated with those who are given to employ DAMs in their relationships. To review, the theory suggests that when men and women seek out a sexual partner, they engage in a process of competitive mate selection, wherein it is desirable to attain the most attractive or valuable mate possible, in order to secure these advantages for their eventual offspring and achieve the goal of carrying on the genetic line (Buss, 2000). Physical attractiveness is seen as the key determinant of mate value for women, and easy access to financial or physical resources is the salient criterion of mate value for men. Some research also suggests that, in close relationships (such as mating partnerships) the specific relational affordances that another person may offer (comfort, caring, love) may contribute to that person's mate value (Eastwick & Hunt, 2014). We may achieve optimal mating outcomes by accurately assessing our own value and then seeking out mates that are roughly similar to us (Eastwick & Hunt, 2014). Theories of assortative mating or "matching" have suggested that we seek mates who are of similar value to ourselves (Buston & Emlen, 2003). However, the dating marketplace does not always produce couples comprised of mates that are of equal (or even close to equal) value in long-term relationships. The quantified difference between our own value and the value of our mate has been termed,

"mate value discrepancy" (Buss, 2000; Symons, 1987). In a pairing of mates with unequal value, the more attractive party may be referred to as the higher value mate (HVM) and the less attractive party may be referred to as the lower value mate (LVM).

Being the LVM in a partnership poses a potential challenge to successfully maintaining a long-term pair bond and raising offspring. Being positioned as the LVM means an increased likelihood of the HVM exiting the relationship in order to attain a mate that more closely approximates the HVM's own value. Potential rivals may also afford the HVM greater advantages in the HVM's pursuit of survival and reproduction. The loss of a mate poses the risk of loss of invested resources (for men) or loss of access to said resources (for women) (Buss, 2000). Mate retention tactics are oriented towards preventing the loss of a mate and may, depending on the tactic, carry relatively small costs when compared to the costs incurred as a result of relational termination. Thus, engaging in mate retention tactics is an adaptive habit. Perceptions of a partner's mate value have been demonstrated in research to be linked to mate retention tactics (Buss & Shackelford, 1997). To LVMs, the loss of a HVM is particularly troubling since it may be difficult for them to replace the HVM with someone who is similarly valuable, and thus the cost of engaging in mate retention tactics to avoid this outcome becomes comparatively smaller in their case.

Lower value mates are also given to exhibit an attitude of hypervigilance surrounding the state of their relationship. LVMs seek to guard against any threat, real or imagined, as the cost of failing to perceive a threat and losing the rival is likely to be less than the cost of guarding against a threat that does not truly exist (Buss, 2000). For

example, Sidelinger and Booth-Butterfield (2007) found that women who perceive their husbands to have higher mate value are also more likely to believe that their husbands are likely to have affairs within the next year. These women, having assessed their partners as valuable mates in the marketplace, recognize the increased opportunity that HVMs have for either extra-dyadic sexual activity or terminating the current relationship in favor of pursuing a new relationship with a more attractive rival, and thus experience increased suspicion and worry that their partner may violate the exclusive nature of their relationship. Concerns about infidelity are not exclusive to females. When men perceive that their mates may be given to extradyadic sexual activity, they are more likely to engage in mate retention behaviors, as an attempt to stave off rivals that may not even exist (Gangestad, Thornhill, & Garver, 2002).

As suggested by Error Management Theory, in the face of these perceived threats, LVMs may be more likely than HVMs to engage in a variety of risky retention tactics such as deception. Choosing this tactic carries the possibility of damaging the relationship, but may still be selected as a result of the perception that the reward of enacting the behavior is greater than the cost of not doing so, even in spite of the risk imposed by the behavior. Goodboy, Meyers, and "Members of Investigating Communication" (2010) offered support for this notion in their finding that lower quality partners in relationships were more likely to exhibit negative maintenance behaviors (such as spying on a partner or engaging in destructive conflict). This tendency to exhibit maintenance behaviors, even those that are not particularly productive, may be motivated by the demonstrated positive association between MVD and perceived commitment

discrepancy (Sidelinger & Booth-Butterfield, 2007). This association suggests that as the difference between our own value and our mate's increases, so too does our concern that our partner is not as invested in the relationship as we may be, and may be preparing to terminate the relationship. This perceived discrepancy may add fuel to the fears that already exist in the hypervigilant LVM.

In close relationships, particularly for LVMs, enacting a DAM may be seen as a cost-effective mate retention tactic. For LVMs, the risk of losing any resources that have been invested in the current relationship, or losing access to those resources, is particularly daunting since LVMs may have limited resources to begin with, and cannot ensure equally satisfactory survival or reproduction if the HVM exits the relationship. If LVMs sense that the relationship would be threatened by the expression of their genuine negative or non-affectionate feelings (as their hypervigilance makes them particularly wont to do) they may perceive that suppressing the expression of their true feelings and communicating a DAM instead carries relatively little cost as compared to the cost that could come about if they expressed their true emotions, which could lead to conflict and eventual termination of the relationship.

A DAM is a cost-effective choice for LVMs as it poses a relatively low risk of detection and harm to the relationship. Research has supported the notion that we find it relatively difficult to detect deception in those who we are particularly familiar with, and also that falsification of information (as in DAMs) is the least readily detected form of deception (Burgoon et al., 1994). Even if the deception is detected, Horan and Dillow (2009) found that many couples stay together after major deceptive episodes are revealed,

so the potential cost of engaging in a DAM as mate retention is further mitigated. Finally, Horan and Booth-Butterfield (2011) noted that, "those skilled in deceptive affection may also reinforce their own mate value, accruing evolutionary advantages in the mate selection process, with minimal repercussions" (p. 100). The expression of affection, as discussed in AET, signals fitness as a sexual partner and parent, and may be a way to surreptitiously increase one's mate value, and lower the perception of the quality of rival mates (Horan & Booth-Butterfield, 2012) who could lure the HVM away. Research has demonstrated the association between receiving positive feedback (in this case, affection) and attraction (Brumbaugh, Baren, & Agishtein, 2014), thus LVMs may subtly increase their attractiveness to their mate by sending falsely flattering messages, and thus decrease the probability of the HVM exiting the relationship. Given the low-risk and high reward associated with communicating a DAM for LVMs, I advance my first hypothesis:

H_1: Individuals who perceive themselves to be the LVM are more likely to engage in DAMs than individuals who perceive themselves to be the HVM.

By contrast, HVMs may perceive the cost of engaging in mate retention tactics to be relatively larger when compared to the benefits of maintaining the relationship with the LVM. This is not to say that HVMs will not engage in DAMs, but rather that the behavior is judged as less profitable, and thus enacted at lower frequencies. As the difference between the value of the LVM and HVM (MVD) becomes larger, the balance of risks and rewards associated with the DAM becomes more extreme for both parties. For HVMs, the risk of detection and the cognitive dissonance associated with sending a deceptive message is not offset by the relatively small rewards that their relationship with

the LVM can offer, and thus the inclination to send a DAM is decreased. Further, for HVMs, the benefits that can be gained by retaining the LVM have a maximal value that is fairly constant. As the MVD between the two parties grows, the benefits associated with retaining the LVM as compared to the costs extracted from the HVM to keep the LVM becomes increasingly less favorable. For LVMs, the risk of detection and dissonance seem particularly small as compared to the extreme benefits they are able to reap from the HVM, and the motivation to send a DAM is increased. In a similar manner to the unfavorable comparison that HVMs may perceive when deciding whether or not to enact a DAM, LVMs may be motivated by a more favorable balance of costs and rewards. The costs to retain the HVM are constant, and as the MVD grows, so too do the benefits associated with keeping an increasingly attractive mate. In keeping with this thinking, I advance a second hypothesis:

H_2: Relative mate value moderates the association between MVD and frequency of DAMs (regardless of who the DAM is designed to benefit), such that lower relative mate value will show a stronger association between MVD and frequency of DAMs than higher relative mate value.

Finally, an individual's position as either the HVM or the LVM in a relationship may exert an effect on the type of DAM they choose to express; one designed to benefit the sender or one designed to benefit the receiver/relationship. As HVMs, individuals have little reason to fear that the LVM will abandon the relationship even if the DAM involves some cost to the LVM. The LVM is unlikely to exit, even in the face of these costs, since the HVM still affords the LVM the benefit of a more attractive mate.

Therefore, HVMs, if they do decide to express a DAM, are likely to express more DAMs that are beneficial solely to themselves, rather than to both parties in the relationship. LVMs, by contrast, may feel fearful that the HVM will exit the relationship in the face of even the smallest cost, such as those that the HVM may feel as a result of detecting a DAM. The fear of negative and damaging reactions from an HVM if they are not benefitted from the DAM may discourage LVMs from enacting this type of DAM at all, as the benefits are not offset by the potential costs. As such, I suggest two final hypotheses:

H_3: HVMs will express DAMs designed to be beneficial solely to themselves more frequently than will LVMs.

H_4: LVMs will express DAMs designed to be beneficial to their mates and/or relationships more frequently than will HVMs.

Methods

PARTICIPANTS

Participants in this study were all United States residents (*N*=214). The sample was 50.5 percent male and 49.5 percent female. Respondents were aged 18 to 71 years (*M* = 38.87, *Mdn* = 29.5, *SD* = 22.9), and had been in a romantic relationship for an average of 5.88 years (*SD* = 7.31 years). All participants in the study were heterosexual. The majority of participants reported their ethnicity as White/Caucasian (76.9%), 7.5 percent as Hispanic/Latino, 7.5 percent as Black/African American, 6.1 percent reported their race as Asian/Pacific Islander, and 1.9 percent reported their ethnicity as other.

PROCEDURE

Data for this study were collected via Amazon.com's Mechanical Turk, a technology that allows people to participate in research studies in exchange for a small monetary reward (in this study, $0.50). Mechanical Turk samples have been found to be more diverse than, and equally as reliable as, traditional Internet and American college samples (Burhmester, Kwang, & Gosling, 2011). The survey itself was hosted on the Qualtrics server, an online data collection website.

After providing consent, participants were given access to the survey, which asked them to think about their current romantic relationship. Respondents were asked to indicate whether their current relationship is committed or casual. Participants were then shown an abbreviated description of affection consistent with that presented in Horan and Booth-Butterfield (2010). The description read as follows:

> Affection consists of verbal and nonverbal messages that communicate liking, fondness, and love. Examples of affectionate messages include, but are not limited to, the following: holding hands, kissing, hugging, putting your arm around your partner, saying "I like/love you," telling your partner how important the relationship is, complimenting your partner, or sitting close to your partner (p. 402)

Following this, respondents were be shown a description of a deceptive affectionate message (DAM) that read as follows: "A deceptive affectionate message occurs when you actively communicate affection to your partner that you are not genuinely feeling" (Horan & Booth-Butterfield, 2013, p. 203), followed by the sentence, "this study will be asking you about communicating affection that you are not genuinely feeling."

After reading the description of DAMs, participants were asked to give a short example of a time when they communicated a DAM to a romantic partner. Respondents were then asked to briefly describe their motivation for sending the DAM, and also if they felt that their partner detected their deception or if their partner thought the affection was genuine. Next, participants were presented with scales designed to assess their level of mate value discrepancy, the extent and frequency with which they communicate DAMs in their relationship, and finally, a measure of their investment in their current relationship. After the survey was completed, participants answered a set of demographic questions about the their age, sex, ethnicity, and the length of the romantic relationship that they described when completing the survey. Finally, upon submitting this information, respondents were directed to a final page thanking them for their participation in the study.

MEASURES

Trait-specific dependence.

The Trait-Specific Dependence Inventory (TSDI) (Ellis, Simpson, & Campbell, 2002) was used to measure mate value and mate value discrepancy in this study. The measure asks participants to rate the difficulty of replacing both themselves and their partners with a different mate of equal value on 34 characteristics in six sub-categories. Some examples of the characteristics asked about on the scale are: considerate, devoted, hard-working, athletic, intelligent, assertive, sexually appealing, and honest. Mate value discrepancy is calculated by subtracting participants' evaluation of their partner's mate value from their evaluation of their own value. Following this calculation, individuals with a positive difference score are seen as the higher value mate, whereas individuals with a negative difference score are seen as the lower value mate. The TSDI uses a Likert-type scale, adapted in this study to have seven steps (1= *not at all difficult*, 7 = *extremely difficult*). Please see Appendix A for the full measure. The scale had strong reliability (α= .97, M = .09, SD = 1.13) in the current study.

Commitment and investment.

Two subscales of the Investment Model Scale (Rusbult, Martz, & Agnew, 1998) were used to assess the extent to which an individual has devoted resources to a current relationship and also how committed that individual is to that relationship. The two subscales were combined to provide a proximal measure of the emotional and physical resources that individuals have devoted to their relationship, as well as to make inferences about the short- vs. long-term mating orientation within a current romantic

relationship. Example items from the scale include: “I am committed to maintaining my relationship with my partner,” “I want our relationship to last forever,” “I have put a great deal into our relationship that I would lose if it ended,” and “many aspects of my life have become linked to my partner”. The scale includes 12 Likert-type items, adapted in this study to have seven steps (1= *strongly disagree*, 7 = *strongly agree*) that are distributed among two subscales. Please see Appendix B for the full measure. Both scales demonstrated good reliability (commitment: α= .92, *M*= 5.90, *SD*= 1.24; investment: α= .81, *M*= 5.48, *SD*= 1.13).

Tendency to use DAMs.

Cole’s (2001) frequency of deception measure was adapted for use in this study to determine the “extent to which people conceal information, mislead, and/or deceive their partner” (p. 114) using DAMs. The original scale assesses individuals’ propensity to use deception in their relationships, whereas the modified scale includes language that narrows the focus of the measure to individuals propensity to enact deceptive affection. The modified scale consists of nine Likert-type items, with responses on seven steps (1= *strongly agree*, 7= *strongly disagree*). Example items include: “I sometimes express affection that I am not feeling towards my partner,” “There are times when I try to mislead my partner about my feelings of affection,” “I express my true feelings of affection to my partner, whether good or bad” (reverse-coded). The scale has demonstrated strong reliability (α= .87, *M*= 3.99, *SD*= 1.07).

Frequency of expressing DAMs.

Four additional items were added to Cole's (2001) modified scale. The first and second added items asked participants to provide an estimate of how many times they have communicated deceptive, and also deceptive affectionate messages to their partner in the past week (*M*= 1.81, *Mdn*= 1.00, SD= 2.45; *M*= 3.98, *Mdn*= 2.00, *SD*= 6.96, respectively) as a measure of the frequency of deception and DAMs. The third and fourth additional items asked participants to estimate how many times per week they express a DAM meant to "protect your partner or make your partner feel good," as a measure of the frequency of relationship oriented DAMs (*M*=1.39, *Mdn*= 0.00, SD=6.04), and how many times per week they express a DAM meant to "benefit yourself or get something you want," as a measure of the frequency of self-oriented DAMs (*M*= 2.58, *Mdn*= 2.00, *SD*=2.85). Please see Appendix C for the full, modified measure.[i]

Results

RQ1 and RQ2 asked whether the frequency of DAMs designed to primarily benefit the self or the other/relationship would be associated with levels of commitment and investment in a romantic relationship. To explore RQ1 and RQ2, two Pearson product-moment correlations were conducted. The frequency of DAMs that primarily benefit the self was significantly and negatively associated with commitment r (214) = -.27, p< .001, and not significantly associated with investment r (214) = -.02, p = .74. The frequency of DAMs that primarily benefit the other/relationship was not associated with commitment r (214) = -.05, p= .48, or investment, r(214) = -.03, p = .67. Commitment and investment were also both found to be significantly and positively correlated with length of current romantic relationship, r(214) = .28, p< .001, and r(214) = .32, p< .001, respectively.

H1 posited that individuals who perceive themselves to be the LVM are more likely to engage in DAMs than individuals who perceive themselves to be the HVM. To assess H1, a one-way Analysis of Variance (ANOVA) was calculated using relative mate value (HVM or LVM) as the independent variable, and the extent to which an individual uses DAMs as the dependent variable. Relative mate value was calculated by subtracting partner's mate value from self mate value. Negative scores were then coded as LVMs, and positive scores were coded as HVMs. A significant difference was noted between groups: F(1, 212) = 4.73, p = .03, η = .02. Lower-value mates (n = 111) reported using DAMs in their romantic relationship more frequently (M = 4.15, SD = 1.10) than did HVMs (n = 103, M = 3.84, SD = 1.03). H1 was supported.

H2 posited that relative mate value would moderate the association between MVD and frequency of DAMs, such that lower relative mate value will be associated with a stronger association between MVD and frequency of DAMs than higher relative mate value. To assess H2, frequency of DAMs was first regressed on MVD and relative mate value (HVM or LVM) in the first step of a sequential multiple regression. A cross-product term (a centered MVD score x relative mate value) was added next to the model to test the possible interaction between MVD and relative mate value in their effects on the frequency of DAMs. Mate value discrepancy and relative mate value together accounted for 5.2% of the variance in frequency of DAMs (F[2, 210] = 5.79, p< .01), and the interaction of MVD and relative mate value was significant (ΔR^2 = .023 F[1, 209] = 5.28, p< .05), accounting for an additional 2.3% of the variance in frequency of DAMs. The regression coefficients in Table 1.1 show the extent of the influence of MVD and relative mate value on frequency of DAMs. Neither MVD nor relative mate value exerted an independently significant effect of the frequency of DAMs. The interaction of MVD and relative mate value, however, did have a significant effect on the frequency of DAMs (β = .269, t(210) = 2.30, p< .05). In continuing to probe this interaction, two separate simple linear regressions were conducted. Frequency of DAMs was regressed on MVD separately for both HVMs and LVMs. For LVMs, the regression equation was not significant (β = .069, R^2 = .005, F[1, 100] = .473, p = .49), as MVD accounted for only 0.5% of the variance in the frequency of DAMs. For HVMs, the regression equation was significant (β = .260, R^2 = .068, F[1, 109] = 7.91, p < .01), and MVD accounted for 6.8% of the variance in the frequency of DAMs. H2 was not supported.

TABLE 1.1 Effects of Mate Value Discrepancy and Relative Mate Value on Frequency of DAMs

VARIABLE	**β**	***b(SE$_b$)***	***p***
Mate Value Discrepancy	.049	.30 (.85)	.72
Relative Mate Value	-.064	-.89 (1.35)	.51
MVD x RMV	.269	2.75 (1.20)	.02

H3 posited that HVMs will express DAMs that primarily benefit the self more frequently than LVMs and H4 posited that LVMs will express DAMs that primarily benefit the other/relationship more frequently than HVMs. To assess both H3 and H4 a two separate one-way Analysis of Variance (ANOVA) tests were conducted. For H3, a significant difference was noted, F (1, 212) = 5.35, $p < .05$, $\eta^2 = .03$, suggesting that HVMs express DAMs that primarily benefit the self more frequently than LVMs (M_{HVM} = 3.01, SD_{HVM} = 3.41; M_{LVM} = 2.12, SD_{LVM} = 2.00). H3 was supported. For H4, no significant differences were found between the two groups, F (1, 212) = 1.20 p = .28, η^2 = .01, suggesting that LVMs are not expressing DAMs that primarily benefit the other/relationship more frequently than HVMs (M_{HVM} = 1.83, SD_{HVM} = 8.16; M_{LVM} = .92, SD_{LVM} = 1.93). H4 was not supported.

Discussion

Over the past several decades, communication scholars have highlighted the notion that the call for honesty may produce complicated effects in close relationships (Bochner, 1982; Caughlin, 2003; Spitzberg & Cupach, 2007). The co-occurrence of affection, an essential component of satisfying relationships which humans both desire and seek (Floyd, 2006, 2014; Horan & Booth-Butterfield, 2010), and deception, which society urges us to avoid (DePaulo et al., 1996), provides an excellent crucible for testing assumptions about "positive" and "negative" relational behaviors. While the benefits of affection are well recognized and the potential harmful effects of interpersonal deception are similarly well explored, the study of deceptive affectionate messages allows us to refine our thinking so as to recognize the multiple and varied goals that both deception and affection may serve.

The present study was conducted to explore a series of specific relational factors that might be associated with the expression of deceptive affectionate messages. To explore deceptive affectionate messages, questions surrounding comparisons made between individuals' perception of their mate value and their partner's mate value, as well as individuals' commitment and investment in their current relationship were raised. This was done in an attempt to clarify who is communicating certain types of deceptive affectionate messages and the nature of the relationships in which those messages occur.

Two research questions were advanced to explore whether commitment and investment (representing resources expended on attracting and retaining a mate) would be

significantly associated with two categories of DAMs. These categories were: (1) those designed to benefit the self, and (2) those designed to benefit the target or the relationship the source has with the target. The results of RQ1 indicated that the expression of DAMs designed to confer benefits mainly on the source was significantly and negatively associated with the source's commitment to the relationship, and was not significantly associated with investment in the relationship. The results of RQ2, by contrast, did not reveal a significant association between commitment and investment and the frequency of expressing DAMs designed to benefit the target or the source's relationship with the target. Considering the mating orientations associated with differing levels of commitment and investment may help to explain these findings. Relationships marked by high commitment and investment tend to persist, whereas those with low commitment and investment tend to be terminated (Rusbult, Martz, & Agnew, 1998). Thus, we might infer that low commitment and investment are likely associated with a short-term mating orientation, and high commitment and investment are likely associated with a long-term mating orientation. This inference is strengthened by the strong positive correlations between relationship length, commitment, and investment that were observed in this study.

One overarching explanation for the lack of significant associations between DAMs and commitment and investment found in both RQ1 and RQ2 may be related to changes in the frequency of affectionate communication (deceptive or otherwise) in romantic relationships over time. The present study assessed only individuals who were

currently in a romantic relationship. Individuals in this study had been in their current relationship for an average of almost six years. Guerrero and Andersen (1992) found that touch (seen as a proximal indicator of affection) occurred less frequently in stable, long-term relationships, than it did in relationships that were in their early or intermediate stages. It is possible that more significant associations could be uncovered by examining individuals in the earlier stages of their partnership. These individuals may express higher levels of affection, including DAMs, than those who may have been together for a longer time. This is certainly an interesting consideration for future research.

Still, one significant association was observed when assessing the first two research questions. RQ1 revealed a significant and negative association between commitment and the frequency of DAMs that primarily benefit the self. When individuals seek to enter into a long-term pairing, as may be suggested by higher levels of commitment, they may no longer feel the pressure to realize a high personal return on investment from a DAM immediately, since they have a longer period of time in which to achieve a similar level of gains as those entering into short-term mating arrangements. With a larger window of opportunity for accruing the benefits of entering a romantic relationship, it is possible these highly committed individuals will choose other, less risky, strategies for achieving their desired gains. Expressing DAMs designed to benefit the self at too high a frequency may threaten the viability of the relationship, an outcome that highly committed individuals would seek to avoid. The target of self-benefitting DAMs may become aware of being manipulated at a certain point, and if the target is

sufficiently dismayed with this realization, he or she may choose to exit the relationship. Relational termination is an undesirable outcome for a highly committed individual as it entails the loss of a cherished relational partner, and further, presents the additional challenge of acquiring a new mate. Considering the potentially unfavorable effects associated with expressing a self-benefitting DAM, long-term oriented, highly committed mates are less likely to express DAMs that extract such large costs from mates that they wish to retain. Self-benefitting DAMs may be perceived as an unnecessarily threatening and potentially costly tactic, and so are selected less often by highly committed individuals. Accordingly, a significant negative association between commitment and self-benefitting DAMs was observed.

RQ1 also sought to explore if investment would be significantly associated with the frequency of self-benefitting DAMs. If individuals have not devoted many of their resources to a relationship, and are not particularly concerned with the relationship lasting for a substantial period of time, their motivation may be to maximize the value that can be extracted from their current partner before the termination of the relationship. As some resources (either large or small) were likely required to attract the current mate, it is advantageous for individuals who are not highly invested in the current relationship to attempt to recoup those resources that were originally expended on the relationship, and additionally to attempt to realize some sort of gains (either sexual or emotional) from the arrangement as well. Inasmuch as affection is conceptualized as a resource (Floyd, 2006), it is unlikely that people with low investment will be willing to expend that

resource in the form of a DAM if they do not think that this expenditure will produce a benefit that is equal or greater in value. Self-benefitting DAMs represent an opportunity to expend a small amount of affection, a resource that is easily replenished, in exchange for a potentially large benefit. It is possible to conceptualize this as a judgment of relational return on investment. If individuals are seeking to enter and exit a relationship quickly, they will want to do so with minimal net cost to their own resources and maximal gain from the partner in the short period of time that their relationship lasts. Individuals may put forth an investment of any size, large or small, if they perceive that they can recoup those costs plus additional benefits by expressing a self-benefitting DAM. An individual can perceive a self-benefitting DAM as advantageous at levels of investment that are both high and low. If this is the case, individuals who feel high or low levels of investment to their relationship may be similarly likely to express a self-benefitting DAM. This flexibility in the level of investment that may accompany a self-benefitting DAM may explain the lack of a significant association between the two measures.

A self-benefitting DAM provides an opportunity to expend what may be a fairly small amount of affection (a single utterance may be enough) to achieve a fairly large return. In a short-term pairing, it behooves individuals to communicate DAMs that may benefit themselves at the cost of the target at a high frequency, so as to accrue all of the benefits they possibly can before the target becomes aware of the deception/manipulation and possibly chooses to exit the relationship. Additionally, research indicates that

communicating DAMs does not activate the unpleasant emotional experiences of guilt or shame (Horan & Booth-Butterfield, 2010) that are normally associated with relational transgressions such as deception (Reik, 2014). Given this finding, individuals are not likely to be plagued by emotional costs when deciding whether or not to enact this type of DAM. The low costs and high rewards associated with a self-benefitting DAM in a short-term relationship provide a fairly logical explanation for the significant and negative association between investment and self-benefitting DAMs, as was found in exploring RQ1.

RQ2 sought to determine whether commitment and investment would be associated with the frequency of expressing other-/relationship-benefitting DAMs; no significant association was found. High levels of commitment and investment have been shown to be positively associated with superior dyadic functioning (Rusbult, Martz, & Agnew, 1998). It is possible that individuals in these high-functioning relationships may not feel a strong need to express DAMs that provide benefits to their partner or support the health of the relationship as frequently as their less satisfied counterparts. Individuals who are not highly committed to or invested in their relationship are similarly unlikely to express an other-/relationship-benefitting DAM. This type of DAM is designed to promote relational longevity, either by provisioning benefits a mate, or to supporting the condition of the relationship. As individuals who report low levels of commitment and investment are not highly concerned with the endurance of their relationship, they are unlikely to express an other-/relationship-benefitting DAM to achieve this goal.

Another plausible explanation for the lack of significant association between commitment and other-benefitting DAMs concerns the timeframe in which individuals are seeking to realize net gains in their relationships. Long-term relationships may also offer a different schedule in terms of the realization of relational returns on investment when compared to that of individuals who choose to engage in a short-term relationship. The relational returns on investment that are realized in both types of relationships may be favorable. However, those benefits that come from long-term relationships are accrued over a more extended time frame. The original costs associated with acquiring a long-term mate are eventually mitigated, and as the relationship progresses, steady gains are accrued past the break-even point. While the instant sexual or emotional gratification associated with short-term relationships may not occur in a long-term pairing, rewards are ostensibly realized in a proportion that is satisfying for remaining in a long term pairing. Individuals in these highly committed and invested relationships may not feel the need to turn to tactics that can carry high costs, such as the discovery of deception that may come along with other-benefitting DAMs. If these individuals are confident that similar gains can be accrued over time through other tactics that may not carry the possibility of these costs, other-benefitting DAMs may occur less frequently, making up only a small proportion of the tactics that are available and beneficial to committed individuals.

Similarly, individuals who are engaged in a short-term mating relationship may not be given to expressing other/ relationship-benefitting DAMs either. Other-

/relationship-benefitting DAMs may be enacted to support the relational satisfaction of an individual's mate, or the stability and longevity of a relationship, rather than the needs of the self. As those engaged short-term relationships may be more concerned with quickly meeting their own needs, rather than the needs of the mate or the relationship, other-/relationship-benefitting DAMs may not present the most efficient or effective route to quickly accruing maximal gains. While it is possible that those in long-term and short-term oriented relationships may not find other-/relationship-benefitting DAMs to be the most beneficial tactic in a romantic relationship, we can be quite confident from the data in this study that these types of DAMs do still occur. As such, it is possible that commitment and investment may not be the key relational determinants of whether an other-/relationship-benefitting DAM is expressed.

Commitment and investment, and their associated mating orientations, are among many relational factors that likely influence the expression of certain types of DAMs in romantic relationships. In this study, the notion of relative mate value, or the feeling of being superior or inferior to a partner, was also associated with the tendency to use DAMs. As was posited in H1, LVMs were found to be significantly more likely to communicate a DAM in their relationship than their higher value counterparts. Evolutionary theories suggest that behaviors that are not adaptive, or do not satisfactorily serve individuals' needs, will decrease over time (Trivers, 1972). Recalling the 19 mate retention tactics delineated by Buss (1998), the option of expressing love and care towards a partner was found to be the most frequent and effective choice of tactic,

suggesting that it is fairly successful for those who choose to use it. LVMs are highly motivated to retain an HVM, since the attractiveness and value of the current HVM may be difficult for LVMs to replace. A DAM, if communicated successfully, accomplishes the multiple goals of satisfying the HVM's optimal level of desired affection (Floyd, 2006), enacting the love and care that aids in retaining a mate, and possibly raising LVMs' value in the eyes of the HVM (Floyd, 2006). All three of the aforementioned ends contribute to the LVM's overarching goal of protecting the viability of their relationship with the HVM.

As LVMs' inherently inferior position poses a threat to the pairing, LVMs may recognize a DAM as a communicative option that protects their relationship on multiple fronts. The ability to retain a highly attractive partner confers reproductive advantages, and thus behaviors such as DAMs that aid in this task are repeated to achieve optimal mating and reproductive outcomes. In contrast to LVMs, HVMs may recognize their superior status, and are likely fairly confident in the endurance of their relationship. As a consequence, they may not feel the need to express DAMs as often in their relationships. HVMs do not need to turn to deceptive affection to retain their less attractive mate, nor does selecting a DAM confer any particular reproductive advantage onto HVMs that could not be achieved through other means as well, and thus it may be selected less often as a retention tactic.

While relative mate value (RMV) captures a categorical feeling of superiority or inferiority within a pairing, mate value discrepancy (MVD) allows for a more detailed

look at the magnitude of the disparity between the perceived value of the self and the other in a relationship. Hypothesis 2 suggested that RMV would moderate the association between MVD and frequency of DAMs, such that the association would be stronger for LVMs. This hypothesis was not supported by the results of this study. The results indicated that there was no significant association between MVD and frequency of DAMs for LVMs. This is, perhaps, an artifact of a type of threshold effect for LVMs, wherein LVMs' perception that they are the inferior mate in a pairing, regardless of the size of the disparity between the value of the LVM and HVM, leads LVMs to enact DAMs as a retention technique. As reported in Goodboy et al. (2010), lower quality partners in romantic relationships, such as LVMs, are given to selecting negative retention or maintenance behaviors. Combining this finding with results from the current study, one might infer that LVMs are willing to enact DAMs, a tactic which holds the potential for damaging the relationship if not carried out successfully, in order to achieve their goal of relational endurance with their valued partner. In this case, it is not the size of the difference between the value of the self and the partner that matters. Rather it is the mere perception that individuals are inferior to their partner (their estimation of their RMV) that may motivate LVMs to enact DAMs as a retention technique. When individuals feel that they are inferior to their partner, that feeling may activate an evolutionarily adaptive "trigger," which functions regardless of the magnitude of the mate value difference. This trigger may act to arouse the characteristic hypervigilance of LVMs, which leads LVMs to engage in retention tactics, such as DAMs, to ward off even the smallest perceived potential threats to a relationship.

Another explanation for this lack of significant association involves calculations the LVMs may make about the risk of detection associated with deceptive affection. In spite of evidence suggesting that the probability of detecting deception from a close other is relatively small (Burgoon et al., 1994), the negative emotional and relational costs that may be associated with discovering a lie (McCornack & Levine, 1990) may exceed the level of risk tolerance hypervigiliant LVMs have for enacting certain retention tactics in their relationship. Though lower quality partners may be given to risky tactics, deception could be a tactic that is perceived as having costs that are too great, and thus may not be selected. The means for tendency to use DAMs obtained in H1, however, suggest that this interpretation is unlikely. H1 found that LVMs are significantly more likely to enact DAMs in their relationships; they were found to send a higher number of DAMs, on average, when compared to HVMs. This suggests that LVMs are selecting the behavior more frequently, rather than avoiding it.

It seems, however, that the magnitude of the difference between and individuals' mate value, and the mate value of their partner, does matter for HVMs. There was a somewhat surprising significant and positive association between MVD and frequency of DAMs for HVMs. Perhaps people who feel only slightly superior to their partners (low MVD) are somewhat more cautious in employing a risky retention tactic, such as a DAM. In a low MVD relationship, HVMs still have some interest in retaining their slightly inferior mate, seeing as the cost of acquiring a new mate may not exceed the benefits afforded to HVMs by a new partner who's value may not be significantly greater than the

current mate. The cost associated with finding a new mate as a result of a failed DAM may outweigh the benefits HVMs feel they could achieve with a successful DAM when MVD between the self and the partner is relatively small. Similarly, in a low MVD relationship, HVMs may not be quite as confident in the security of their relationship as HVMs in a high MVD relationship. HVMs who are vastly superior to their partners are able to be relatively sure that the LVM will not exit the relationship, even when the relationship involves high costs to the LVM or is not particularly satisfying for the less attractive mate. As MVD increases, the growing power afforded to HVMs by way of their increasingly high attractiveness allows HVMs to be concomitantly confident that the lower value counterpart will not terminate the relationship, even in the face of deception that may be designed only to benefit HVMs, such as a DAM. The increased MVD means that the LVM is realizing larger reproductive benefits by virtue of staying in a relationship with a comparatively more attractive mate, and is also likely willing to tolerate higher costs before terminating the relationship. HVMs' confidence in the endurance of the relationship makes the DAM a relatively risk-free behavior that has unlikely costs (termination) and can result in meaningful benefits to HVMs. As such, HVMs in a high MVD pairing may feel free to select this advantageous behavior and may do so at higher frequencies, which may explain the positive association between MVD and frequency of DAMs for HVMs.

HVMs were also found to express self-benefitting DAMs more often than LVMs in this study, supporting Hypothesis 3. As noted above, HVMs are relatively unconcerned

with maintaining the happiness of their LVM, and may not feel compelled to expend the resource of affection on a DAM that would primarily benefit the LVM or a relationship that is not particularly important or precious to them. HVMs may seek to make up for the reproductive opportunities that they have lost when they choose to enter into a relationship with a less valuable partner by seeking to extract the maximum value at minimum cost from that pairing. HVMs can realize a much greater return on their investment of affection by expressing a DAM that will confer benefits primarily to themselves. The cost of an affectionate (even if non-genuine) gesture towards the LVM is small, and in certain cases may be rewarded with large benefits such as sex, money, or other physical resources that HVMs desire. The risk of the LVM exiting this type of arrangement following detection of deceptive affection is low, since the LVM is unlikely to voluntarily terminate a relationship that fortuitously grants him or her reproductive advantages. LVMs, by contrast, may be hypervigilant to any sources of threat to their relationship (Buss, 2000) and may be reasonably fearful that utilizing a self-benefitting DAM would, if discovered, invite negative consequences for their relationship. LVMs, being perhaps overly sensitive to the small risk of detection associated with self-benefitting DAMs, may select this behavior at a lower frequency than do HVMs.

It is not unreasonable to suggest that LVMs would instead enact DAMs designed to benefit the other or the relationship at a higher frequency than HVMs, as was suggested in Hypothesis 4. However, the results of this study did not support this hypothesis. There was no significant difference in the frequency with which LVMs and

HVMs expressed other/relationship-benefitting DAMs. The other/relationship-benefitting DAM, which primarily confers gains upon individuals' mates or the health of their relationship, is a relatively low cost retention tactic for both HVMs and LVMs. Affection is a resource that individuals have a fairly unrestricted supply of and may expend at will without fear of depleting that supply. The small cost associated with the use of the plentiful resource of affection, whether genuine or deceptive, is dwarfed by the costs of relational termination and the ensuing search for a new mate that may accompany its absence. In assessing the cost-benefit ratio of expressing an other- or relationship-benefitting DAM, the price of the tactic for the sender is fairly small for both HVMs and LVMs. While the ratio of costs to benefits may vary by relative mate value, being much larger for LVMs and smaller for HVMs, the benefits of the behavior may be seen as outweighing the costs in many situations for both categories of mates. The promise of those benefits may be great enough to make this type of DAM equally likely to be selected as a retention tactic by both HVMs and LVMs.

FUTURE DIRECTIONS

While the results of this study do shed some new light on the study of deception, affection, and mate value in romantic relationships, there is certainly more work to be done in investigating the confluence of these phenomena. For example, future work could quite interestingly focus on the experience of DAMs from the perspective of the target, rather than the source. Topics for investigation in this realm could include instances in which the target suspected that the affection that he or she received was not genuine.

Connected to this investigation, explorations of what the felt and enacted consequences within the relationship might be presents an interesting line of inquiry. There is also a space for investigating the association of other relational outcomes and DAMs, as has been done in Gillen and Horan (2013). Some interesting associations to pursue might be negative or positive effects of DAMs on relational endurance, satisfaction, perceptions of trust, frequency of conflict, and intimacy. Taking up questions about the consequences of DAMs may help us to further refine our understanding of them as "positive" or "negative" relational behaviors. It may also be interesting to pursue questions of whether certain relationship types or styles of interaction within relationships, such as those discussed by Dillard and Fitzpatrick (1985), Gottman and Levenson (1988), or Fitzpatrick and Best (1979), are also associated with the frequency or type of DAMs sent. It may be that the antecedents and consequences of DAMs vary according to these typologies, though that claim is speculative at best until further research indicates otherwise. Still, it is possible that findings from these suggested studies could be profitably used by clinicians to understand whether deceptive affection is being enacted as a functional or dysfunctional behavior in different couple types.

The idea of relative mate value is another topic that could be profitably developed by communication researchers. While notions of mate value have been taken up by evolutionary psychologists for some time now (Buss, 1994; Buss & Barnes, 1996; Eastwick & Hunt, 2014), communication researchers have yet to deeply explore how this comparison between individuals' self worth and the worth of their partner affects dyads. .

As relationships are inherently dyadic, it is possible that the judgments that individuals make about their value in a pairing may bear some influence on their interactions with their partner. A relatively limited corpus of communication research has explored MVD and its associations with jealousy, forgiveness, and commitment (Sidelinger & Booth-Butterfield, 2007; 2009), however the concept of RMV has yet to be developed and is a promising avenue for future investigations. Additional inquiries into RMV may provide new perspectives on the workings of power dynamics within romantic relationships. Garnering reports from both parties in a relationship would certainly be advantageous here, as it would allow for a deeper look at the state of the relationship. Source and target characteristics beyond RMV may also be interesting to investigate. For example, self-perceived efficacy in encoding and enacting a DAM and perceived ability of a target to detect deception may influence the enactment of DAMs. Lastly, exploring whether other contextual factors, such as perceptions of scarcity/availability of high quality alternative mates, affects the type or frequency of DAMs enacted in a relationship might further enhance our knowledge surrounding these acts. These questions may help researchers more clearly and wholly understand the particular motivations that lead individuals to engage in DAMs beyond that which we can glean from participants' reports.

LIMITATIONS

There are some important limitations to be considered when interpreting the results of this study, a number of which are empirical in nature. First of all, there has been some concern surrounding the use of difference scores, such as MVD, in correlational

research (Griffin, Murray, & Gonzalez, 1999). While the validity of this criticism is certainly recognized, difference scores have been used and well regarded in other research (e.g., Theiss & Solomon, 2008). Future research on MVD could seek to explore alternate methods for quantitatively assessing this construct that do not involve the use of difference scores, so as to bolster the strength of any findings derived from its use. Further, the data collected on the frequency of lying in this study showed a strong positive skew. This is not particularly surprising given some of the recent research on deception. Studies suggest that for the majority of the population, lying is a fairly infrequent event. There are, however, a few individuals who tell a very high number of lies (Levine, Serota, Carey, & Messer, 2013; Serota & Levine, 2015; Serota, Levine, & Boster, 2010). In keeping with what appears to be standard practice in deception research, data on the frequency of lying collected for this study was not normalized prior to use in analyses. While the statistical tests employed in this study are fairly robust to violations of the assumption of normally distributed data, the findings must be treated with an additional degree of caution.

Another limitation of this study is that reports of mate value were gathered from only one partner in a relationship, rather than both. While data gathered from both members of a dyad may allow researchers to more accurately determine whether a person is the lower or higher value mate, individuals' perception of their relative standing is also important in determining RMV and in assessing its effects. Still, the current study is the only study of which the author is aware that has sought to explicitly consider the

interaction of RMV, MVD, and DAMs. As such, the findings of this study should be taken with caution and will need to be replicated in the future to strengthen their validity.

While the sample in the present study was more diverse in age, race, and ethnicity than traditional college samples, there was no diversity in terms of sexual orientation. The present study relied entirely on heterosexual couples, as much of evolutionary psychology rests on the assumption that mating and determinations of attractiveness occur between members of the opposite sex. As such, results from the present study are only generalizable to heterosexual couples. Future research should certainly strive to see if these results, as well as the results from many studies that rest on principles of evolutionary psychology, hold in couples composed of individuals of more diverse sexual identities, such as gay, lesbian, bisexual, transsexual, or queer individuals. This is an important task that has recently been taken up by some researchers (Scherer, Akers, & Kolbe, 2013). However, the exclusion of participants who do not identify as "straight" in this study is a weakness that cannot be overlooked and should be remedied in future studies.

Affection and deception are both common parts of human interaction. The current study has sought to explore how these two experiences might interact in the context of romantic relationships in ways that may push us to think more carefully about categorizing certain behaviors as "positive" or "negative." By bringing some of the principles of evolutionary psychology to bear on the phenomenon of deceptive affectionate messages, the influence of invested resources, as well as individuals' value in

a mating market as compared to the value of their partner were explored. Considering the dynamics of perceived attractiveness within a relationship and relatedly, who receives the greater proportion of benefits as a result of deceptive affection, allows us to make some inferences about whether a deceptive affectionate act fits in the more conventional, negative understanding of deception in close relationships, or whether it might be better understood as an act designed to achieve positive ends, even if through potentially risky means.

Appendix A

Trait Specific Dependence Inventory (Ellis, Simpson, & Campbell, 2002)

Below is a list of questions about *your* perceived alternatives to your current relationship. Please use the following codes to indicate your feelings, ranging from 1= *Extremely easy all* to 7= *Extremely difficult*.

-- If you and your current partner broke up, how difficult would it be for *you* to find another partner who is as […] as they are?:
-- If you and your current partner broke up, how difficult would it be for *them* to find another partner as […] as you?:

1. Considerate
2. Devoted
3. Generous
4. Kind
5. Loyal
6. In love
7. Cooperative
8. Understanding
9. Honest
10. Professionally successful
11. Responsible
12. Hard-working
13. Likely to be successful in the future
14. Well-organized
15. Ambitious
16. Efficient
17. Well educated
18. Intelligent
19. Practical
20. Able to take charge of a group
21. Physically strong
22. Athletic
23. Physically able to protect someone
24. Relaxed
25. Emotionally stable
26. Calm under pressure
27. Guilt-free
28. Bold
29. Outgoing

30. Assertive
31. Self-confident
32. Physically attractive
33. Good looking
34. Sexually appealing

Appendix B

Investment Model Scale (Rusbult, Martz, & Agnes, 1998)

Please respond to the following statements while thinking about your current romantic relationship. Possible responses to the following items range from 1 (strongly disagree) and 7 (strongly agree).

1. I am committed to maintaining my relationship with my partner
2. I want our relationship to last for a very long time
3. I feel very attached to our relationship—very strongly linked to my partner
4. It is likely that I will date someone other than my partner within the next year*
5. I would not feel very upset if our relationship were to end in the near future*
6. I want our relationship to last forever
7. I am orientated toward the long-term future of my relationship
8. I feel satisfied with our relationship
9. My relationship is much better than others' relationships
10. My relationship is close to ideal
11. Our relationship makes me very happy
12. Our relationship does a good job of fulfilling my needs for intimacy
13. My alternatives are attractive to me (dating someone else, spending time with someone else…)
14. My alternatives to our relationship are close to ideal
15. If I weren't dating my partner, I would do fine—I would find someone else appealing
16. The people other than my partner are very appealing
17. My needs for intimacy, companionship, etc. could easily be fulfilled by someone else
18. I have put a great deal into our relationship that I would lose if it ended
19. Compared to other people, I have invested a great deal in my relationship
20. I feel very involved in our relationship—like I have put a great deal into it.
21. Many aspects of my life have become linked to my partner
22. My relationships with friends and family members would be complicated if my relationship ended.

Appendix C

Modified Frequency of Deception Measure (adapted from Cole, 2001).

Below is a list of items describing how you communicate affection with your romantic relational partner.

Affectionate communication consists of verbal and nonverbal messages that communicate liking, fondness, and love. Examples of affectionate messages include, but are not limited to, the following: holding hands, kissing, hugging, putting your arm around your partner, saying "I like/love you," telling your partner how important the relationship is to you, complimenting your partner, or sitting close to your partner.

A deceptive affectionate message occurs when you actively communicate affection to your partner that you are not genuinely feeling. This part of the survey will be asking you about communicating affection that you are not genuinely feeling.

Using the scale below, please rate how accurately each item describes your communication.

1. I express my true feelings of affection to my partner, whether good or bad.

2. I sometimes find myself deceiving my partner about my feelings of affection.

3. I sometimes express affection that I am not feeling towards my partner.

4. I tell my partner the complete truth about my feelings of affection, even if he/she does not want to hear it.

5. I try to hide it from my partner when I'm not feeling affectionate toward him/her.

6. I try to conceal it from my partner when I'm not feeling affectionate toward him/her.

7. There are times when I try to mislead my partner about my feelings of affection.

8. When I don't feel as affectionate as my partner expects me to, I always tell him/her how I am really feeling.

9. Please estimate the number of times you express affection you are not feeling towards your partner during the course of a week. ___

10. Please estimate the number of times you lie to or conceal the truth from your partner during the course of a week. ____

11. Of the times that you express affection you are not feeling towards your partner over the course of the week, how many times do you express affection that you are not feeling to protect your partner or make your partner feel good? _____

12. Of the times that you express affection you are not feeling towards your partner over the course of the week, how many times do you express affection that you are not feeling to benefit yourself or to get something you want? ____

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[i] Consistent with prior research, data collected on the frequency of deception and deceptive affection were not normalized in spite of their strong positive skew (skewness statistics ranged from 2.93 to 12.68). Many other studies on deception report data with standard deviations similar to those observed in the current study, but do not normalize their data (c.f., DePaulo, et al., 1996 and Gillen & Horan, 2013).